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ABSTRACT

A study was conducted to determine the extent and nature on non-respondent bias in the follow-up survey in 1981 of Michigan secondary vocational education students from the class of 1980. The response rate to the annual survey has been approximately 76 percent in past years, yet there remains a significant non-response bias potential. This study, therefore, addresses the degree of similarity of certain demographic and status measures between those former students who responded to the follow-up survey in 1981 and those who did not. A representative sample of non-respondents was identified, and these subjects were asked the same questions that appear in the original survey instrument. The results of the non-responder sample were then compared with the data obtained from students who responded to the original survey. Three major conclusions were drawn from the study: (1) district educators responsible for the follow-up did, for the most part, successfully follow-up their completers and leavers, as was evident from the high return rate on the difficult task of obtaining complete information on 1,600 non-responders; (2) the information obtained from the respondents is a highly accurate estimate of the status of the universe of former vocational students surveyed, on most of the survey items; (3) the data from the sample of non-respondents surveyed revealed certain areas of non-respondent bias which should be considered in the interpretation and reporting of the survey results if the universe is to be all completers and leavers rather than only those who are willing to complete the follow-up survey. (KC)

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TECHNICAL REPORT

Study of Non-Responders to the Follow-Up Survey of 1980 Completers and Leavers

November, 1981

U.S. DEPARTMENT OF EDUCATION
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FOREWORD

The staff at Instructional Development and Evaluation Associates, Inc. would like to express our appreciation to James Bebermeyer, the project officer, for the very excellent cooperation extended to us while conducting this study. He was most willing and did provide assistance and guidance in all phases of design, execution, and reporting of the results. Without his help, this study would have been much more difficult to complete.

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INTRODUCTION

The purpose of this study was to determine the extent and nature of non-respondent bias in the follow-up survey in 1981 of Michigan secondary vocational education students from the class of 1980. Local school districts (LEAs)* with reimbursed vocational education programs and the Michigan Department of Education conduct the follow-up survey annually to ascertain the employment and continuing education status of completers of and leavers from these programs. Students who had completed a vocational education program are termed "completers" and students who were enrolled but did not complete a program are termed "leavers".

For the past nine years, the Department has collected this or similar information for use in state, regional, and local district decision-making, and for reporting data in compliance with the Educational Amendments of 1976 (Title II of PL 94-482) and of 1968.

The response rate to the annual survey has been approximately 76 percent in past years. While one may deem that level of response "very good" (Warwick & Lininger 1975), it is possible that significant differences exist between respondents and non-respondents. Research has shown (Brownley 1957, Donals, 1960, Warwick and Lininger 1975) that, even with surveys yielding high response rates, there remains a significant non-response bias potential. To determine the extent of this potential respondent bias, researchers recommend that samples of non-respondents be surveyed

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*LEAs are local education agencies or school districts, including, for the purposes of this report, area vocational centers, that are fiscal agencies for state reimbursed vocational education programs.

to determine the extent and nature of potential differences between the respondent and non-respondent populations (Warwick and Lininger 1975, Campbell and Katona 1953).

This study therefore addresses the degree of similarity of certain demographic and status measures between those former students who responded to the follow-up survey in 1981 and those who did not. We identified a representative sample of non-responders and asked the subjects in the sample the same questions that appear in the original survey instrument. We then compared the results of the non-responder sample with the data obtained from students who responded to the original survey.

In addition to describing the non-responders, the findings of this study will provide the Department with information for making scientifically valid, systematic adjustments in the original survey. Such adjustments will permit the Department to report findings about the entire universe of completers and leavers of the class of 1980 instead of reporting findings about only those who responded to the survey.

In the next section of this report we describe the procedures used in collecting the follow-up data. We then provide a thorough description of the design and procedures we followed in conducting this study. The two subsequent sections contain the findings relative to representativeness of our sample and the ways in which non-respondents and respondents differed. Finally, our conclusions are presented.

To assist in familiarizing the reader with the study, three appendices have been included. The first two contain the survey forms used in our study.

The third appendix includes a copy of a report designed for distribution to general audiences of vocational educators. The major contribution of this report is the development and presentation of findings which more accurately reflect the entire universe of completers and leavers of the class of 1980 than those currently available, which are necessarily limited by being based only upon data from the original survey. We present the findings for the total universe in a trio of tables which parallel those issued by the Department and based upon original survey responses.

INITIAL DATA COLLECTION PROCEDURES

LEA Responsibilities and Activities

In March, April, and May of 1981, each of Michigan's LEAs with reimbursed vocational programs collected the information asked in the instrument titled "Follow-Up Survey of Former Students" from their former secondary students. The former students were those who 1) had been enrolled in reimbursed vocational education programs during the 1979-80 school year, and 2) had either completed a program of study or had left the school system before completing a program. The items contained in the "Follow-Up Survey of Former Students" were included in the phone survey developed by IDEA. A copy of this instrument is contained in Appendix A. The method of data collection (phone, mail, or personal interview) was left to the discretion of the LEA.

Each LEA was also responsible for:

1. Maintaining a list of completers and leavers of the Class of 1980;

2. Following up those students who did not return the survey; and

3. Forwarding the completed surveys to the Survey Support Center, with a "transmittal sheet" containing: the total number of vocational and non-vocational students who were surveyed, the number of completers and leavers who responded by filling out and returning the survey; and the number of non-respondents.

Responsibilities and Activities of the Survey Support Center

The Survey Support Center at the Genessee Intermediate School District, working under a grant from the Department, was responsible for receiving the completed surveys sent by the LEAs and for preparing a magnetic tape of the survey responses for later computer analysis. The data entry activities included an edit

and verification process. The Center also maintained communication with the LEAs to facilitate the resolution of problems in the data collection operation.

Summary of Initial Data Collection Procedures

By the end of June, 1981, all of Michigan's LEAs had forwarded completed surveys, with appropriately filled-out transmittal sheets to the Center.

The Center prepared a data tape of the survey responses, and delivered the tape to the Department. Department staff edited the tape and then forwarded a copy to Instructional Development and Evaluation Associates, Inc. (IDEA) in October, 1981 for use in the present study.

During June and July, the Center provided a copy of the transmittal sheets so that the sample for this study could be drawn. (A detailed description of the sampling plan and methodology appears later in this report.) A tabulation of the transmittal sheets revealed that LEAs had made mailings to or phone interviews with 52,976 former vocational education students. Examination of the data on the tape from the Center revealed that 38,507 former vocational education students (72.7 percent) of the 1980 completer/leaver universe responded to the survey. This high response rate for the original survey compares favorably with the rates of previous years.

Given the obtained response, it was apparent that those who were involved at the LEA level in data collection worked diligently in collecting as much data as possible. A further indication of the quality of work at the LEAs in the data collection

process was the extreme difficulty encountered by IDEA staff in locating and obtaining information from the non-respondents.

An examination of the data tape also indicated a high degree of competence in the data processing tasks performed by the Center. We have had no difficulties in using the tape, and were unable to detect any errors in the data.

DESIGN AND PROCEDURES

Overview

The sampling design had two purposes. It specified requirements for obtaining a sample of non-respondents to the original survey (1) which would be scientifically representative of all those non-respondents and (2) which would yield valid accurate data about non-respondents which we could use to "correct" any non-response bias in the original survey data.

Sample Design

The sampling technique involved four steps. Use of the four steps insured that the sample identified would provide accurate representation of the target population of non-responders involved in this study.

The first step of the sampling process involved the selection of the LEAs within each of the 53 CEPDs* from which the student names were drawn. The process used to identify the LEAs was a random sample with replacement. The random sampling with CEPDs continued until approximately one-half of the LEAs within each CEPD were selected. This process was repeated for all 53 CEPDs.

The second through fourth steps of the sampling process involved simple random sampling to select the names of the students to be included in the sample. Prior to the actual sampling, we determined the sample quota for each CEPD by a weighting procedure. The procedure involved assigning a proportional weight

*A CEPD is one of the 53 vocational education planning regions in Michigan.

based on the percent of the total non-respondent population represented by the number of non-respondents in the CEPD. The weighting process insured that the sample fraction from each CEPD would accurately reflect the proportion of the non-respondent universe contributed by each CEPD. In this way, CEPDs with the highest number of non-respondents contributed the greatest number of individuals to the sample. With the weighting factor applied to the total number of non-respondents in the CEPD, and the number of non-respondents to be sampled from each CEPD calculated, we performed a simple random sampling within each CEPD.

During the random sampling process, all names of non-respondents in each CEPD were grouped together without LEA identification and assigned sequential numbers. We then entered the range of the numbers into a computer programmed with a random number generator to obtain the order of inclusion of the non-respondents in each CEPD.

Prior to beginning the study the Department project officer and IDEA project director agreed that the sample must consist of a total of 1600 completed individual data sets. To be considered complete, a data set needed to have responses to all items, including demographics, some of which LEAs had to provide. Given the nature of the population to be surveyed, however, we anticipated extensive replacement. Therefore, the initial sample drawn included approximately 7000 non-respondents.

In summary, the four step process described in the proceeding paragraphs consisted of:

1. Selection of LEAs to be included in CEPD sample using a simple random sampling procedure, based on transmittal sheet data.

2. Determination of proportion of total non-respondent population contributed by each CEPD.

3. Application of proportional weighting technique to determine proportion of total sample to be contributed to each CEPD.

4. Utilization of a simple random sampling technique to identify individual non-respondents to be included and order in which contact would be made during data collection.

Instrumentation

The major data collection procedure used in the present study was a telephone interview with a protocol consisting of 18 yes/no and multiple choice questions, and six fill-in items. All of these questions were essentially the same as those on the original survey instrument. One additional item requested the reason the respondent did not return the original survey. As in the original survey, the instrument also included areas for recording the former students completer/leaver status, receipt of a high school diploma, the six digit Office of Education program code, program serial number (PSN), home school district, CEPD and LEA codes, student same, special need condition, cooperation education exposure, and ID (sequence number) of each non-respondent surveyed.

Before actual data collection, the Department project officer and the project director reveiwed the instrument and agreed upon the items to be included on the instrument and the format of the survey. After making the revisions identified, IDEA conducted a pilot test of the instrument. The purpose of this pilot was

to determine if any modifications were necessary in the format of the instrument to facilitate its use by the interviewers during the survey. No further revisions were necessary. A copy of the instrument and telephone script is included in Appendix A.

While we obtained most of the data by telephone, we also mailed surveys to 400 non-responders who did not have phones. These mail surveys contained the same questions as the telephone interview forms. A copy of the mail survey is included in Appendix B.

Data Collection Process

Before actual data collection, interviewers received training in collecting data by telephone. The training included an orientation to familiarize the interviewers with the purpose of the study, the instrument, the process to follow in collecting the data, and potential problems which might occur. Interviewers then conducted mock phone interviews with other IDEA staff members. Although all interviewers were experienced, this training process helped to insure that the interviewers were comfortable and relaxed when collecting information and more likely to obtain valid responses.

The trained interviewers conducted the survey in July and August, 1981. They made phone calls seven days a week, both during regular office hours and in the evenings.

Locating non-responders proved to be one of the largest and most difficult tasks of the study. Only a relatively small percent of the non-responders were contacted easily. Many of them

had changed addresses or phone numbers and did not leave clear forwarding information. Others had changed their names. For every non-responder in the sampling pool actually contacted and surveyed, approximately three to five non-responders had been sought. Our difficulty in locating non-responders suggested a high degree of LEA cooperation and commitment in following up and locating former students in the original survey.

Once the interviewers had located and contacted non-responders, most were cooperative in answering the complete telephone survey; the refusal rate was less than one percent.

In all cases, the selection of subjects followed the random sampling procedure described previously. We randomly replaced a selected subject only after at least three attempts to reach the subject had failed or upon being told by an acquaintence that the subject could not be located or a refusal to answer questions. IDEA followed this process for each CEPD until we had surveyed the number of non-responders specified in the sampling plan.

REPRESENTATIVES OF THE SAMPLE

The sampling procedures and the telephone interviews of non-responders were complete by the end of August, 1981. In October, 1981, we received the data tape for the original mail survey. Table 1 presents a summary of the sampling statistics for the present study, showing the relationships among the data on the transmittal sheets, the information on the tape of original survey data, the number of respondents and non-respondents in the universe, and the actual number of non-responders sampled for each CEPD.

The left-most column (1) of Table 1 presents the total number of former vocational educational students (both completers and leavers) originally surveyed, for each CEPD. The data in this column were obtained directly from the LEA transmittal sheets and shows an original survey population universe of 52,976 completers and leavers.

The next column (2) shows the number of respondents for each CEPD. The values in this column, obtained from the data tape, total to 38,507 respondents to the original survey.

The third column from the left (3) displays the total number of non-respondents for each CEPD. We obtained the values in the column for each CEPD by subtracting the number of responders (column 2) from the total number of completers and leavers recorded in the LEA transmittal sheets (column 1). This process yielded a universe of 14,473 non-respondents for the non-responder study.

Column (4) shows the percent of non-responders within each CEPD. To obtain values in this column, we divided the actual number of non-responders (column 3) by the total number of completers and leavers (column 1).

The fifth column from the left shows the non-respondent universe sampling fraction for each CEPD. We calculated values in this column by dividing the number of non-respondents in the CEPD (column 3) by the total number of non-respondents in the universe (14,473).

The next column (6) presents the actual number of non-respondents surveyed in the present study. Values total 1,613 non-responders (11.1 percent of the population of non-responders). This includes data collected from phone and mail surveys.

Column (7) displays the sample non-respondent sampling fractions. We obtained values in this column by dividing the number of non-respondents sampled in the CEPD (column 6) by the total number of non-respondents (1,613).

Column (8) displays, for each CEPD, the difference between the original follow-up survey sampling fraction (column 5) and the non-respondent survey sampling fraction (column 7). Values in this column reflect the differences between estimated and actual proportion of non-responders in each CEPD. They indicate that the sample of non-respondents obtained by estimating the number of non-responders from LEA transmittal sheets was very close to the actual sampling fractions obtained from the data tape. In 50 of 53 CEPDs, the discrepancy between the estimated

and actual sampling fraction was less than two percent, and the highest discrepancy was 2.7 percent. A Pearson product-moment correlation comparing the two sampling fractions yielded a correlation coefficient of .978.

We conclude that the sample obtained in the present study was a highly accurate (alpha = .05, accuracy = 2.3%) proportional sample of the population of non-responders within CEPDs.

Table 1

Summary of Sampling Statistics

	Original Follow-Up Survey					Non-Respondent Study		
CEPD	Number Sent 1	No. of Resp. 2	No. of Non-Resp. 3	Proportion of Non-Resp. CEPD 4	Sample Frac. 5	Number Sent 6	Sample Frac. 7	Difference Between Original and Non-Resp. Sample Frac. 8
1	308	222	86	27.92%	0.59%	7	0.43%	0.16%
2	273	234	39	14.29	0.27	8	0.50	-0.23
3	366	163	203	55.46	1.40	25	1.55	-0.15
4	508	394	114	22.44	0.79	14	0.87	-0.08
5	750	540	210	28.00	1.45	23	1.43	0.03
6	369	179	190	51.49	1.31	23	1.43	-0.11
7	340	250	90	26.47	0.62	12	0.74	-0.12
8	386	276	110	28.50	0.76	10	0.62	0.14
9	501	444	57	11.38	0.39	6	0.37	0.02
10	654	397	257	39.30	1.78	33	2.05	-0.27
11	188	143	45	23.94	0.31	5	0.31	0.00
12	250	148	102	40.80	0.70	14	0.87	-0.16
13	313	216	97	30.99	0.67	12	0.74	-0.07
14	425	282	143	33.65	0.99	17	1.05	-0.07
15	158	55	103	65.19	0.71	14	0.87	-0.16
16	816	646	170	20.83	1.17	18	1.12	0.06
17	440	274	166	37.73	1.15	13	0.81	0.34
18	632	492	140	22.15	0.97	19	1.18	-0.21
19	235	191	44	18.72	0.30	7	0.43	-0.13
20	443	348	95	21.44	0.66	10	0.62	0.04
21	969	792	177	18.27	1.22	23	1.43	-0.20
22	445	352	93	20.90	0.64	10	0.62	0.02
23	1270	935	335	26.38	2.32	40	2.48	-0.16
24	401	285	116	28.93	0.80	13	0.81	-0.00
25	291	236	55	18.90	0.38	2	0.12	0.26
26	552	355	197	35.69	1.36	23	1.43	-0.06
27	891	728	163	18.29	1.13	25	1.55	-0.42
28	461	386	75	16.27	0.52	12	0.74	-0.23
29	3888	2677	1211	31.15	8.37	116	7.19	1.18
30	639	372	267	41.78	1.85	31	1.92	-0.08
31	1672	1115	557	33.31	3.85	63	3.91	-0.06
32	1576	1414	162	10.28	1.12	62	3.84	-2.72
33	1131	568	563	49.78	3.89	66	4.09	-2.00
34	349	239	110	31.52	0.76	10	0.62	0.14
35	1020	860	160	15.69	1.11	14	0.87	0.24

Table 1 Continued

	Original Follow-Up Survey					Non-Respondent Study		
CEPD	Number Sent 1	No. of Resp. 2	No. of Non-Resp. 3	Proportion of Non-Resp. CEPD 4	Sample Frac. 5	Number Sent 6	Sample Frac. 7	Difference Between Original and Non-Resp. Sample Frac. 8
36	896	627	269	30.02%	1.86%	31	1.92%	-0.06%
37	925	729	196	21.19	1.35	22	1.36	-0.01
38	589	406	183	31.07	1.26	18	1.12	0.15
39	5693	4187	1506	26.45	10.41	147	9.11	1.30
40	5260	4063	1197	22.76	8.27	99	6.14	2.14
41	3115	1547	1568	50.34	10.84	155	9.61	1.23
42	6528	4727	1801	27.59	12.45	217	13.45	-1.01
43	1033	788	245	23.72	1.69	29	1.80	-0.10
44	763	642	121	15.86	0.84	21	1.30	-0.47
45	598	584	14	2.34	0.10	1	0.06	0.03
46	221	61	160	72.40	1.11	14	0.87	0.24
47	385	278	107	27.79	0.74	13	0.81	-0.07
48	517	513	4	0.77	0.03	0	0.00	0.03
49	1122	992	130	11.59	0.90	10	0.62	0.28
50	217	212	5	2.30	0.03	3	0.19	-0.15
51	420	226	194	46.19	1.34	23	1.43	-0.09
52	492	421	71	14.43	0.49	8	0.50	-0.01
53	292	296	-4	-1.37	-0.03	2	0.12	-0.15
Total	52976	38507	14473			1613		

ANALYSIS

Profile of Respondents and Non-Respondents

Table 2 provides a profile of 38,507 respondents and the 1,613 non-respondents to the follow-up survey of 1980 completers and leavers. All survey questions are listed and the response options for each question are shown. For dichotomous items, the options are labeled "A" and "B". For non-dichotomous items, each option is considered as a distinct item (items 2, 13 and OE code). The results for each response category appear in terms of the number and proportion of answers to the designated option. Side-by-side display of respondent and non-respondent data provide for easy comparison.

A review of the data revealed that about 44 percent of the respondents and 30 percent of the non-respondents were attending school or college, enrolled in a training program, or working as an apprentice. Of this group, about 70 percent of the respondents and 55 percent of the non-respondents used the vocational training received in high school or at area vocational training received in high school or at area vocational education centers "a lot" or "some", interpreted to mean that they believe their training is "related" to their job requirements.

Both respondents and non-respondents were enrolled in a variety of school programs: 8 percent of the respondents were in high school, 5 percent were in one-year vocational-technical college, 24 percent in a two-year vocational-technical college, 15 percent on a two-year liberal arts college, 30 percent in a four-year liberal arts college, 8 percent in a business school,

3 percent in an apprentice program, and 8 percent in an undesignated "other" school type. The proportions of non-respondents in the different school programs were very similar, except that 29 percent of the sample were enrolled in a two-year liberal arts program, and only 1 percent were still in high school.

About the same proportion of respondents (60 percent) and non-respondents (67 percent) were working for pay. Of this group of working former students, 66 percent of the respondents and 72 percent of the non-respondents were working 35 or more hours per week (considered full-time). Fifty-six percent of the working respondents and 48 percent of the working non-respondents were using their high school/vocational center training "a lot" or "some" (deemed related). Most of the former students were "very satisfied" or "somewhat satisfied" with their jobs (81 percent of the respondents, and 70 percent of the non-respondents). The average hourly wage was $4.16 for the working respondents, and slightly higher ($4.39) for the working non-respondents. About two-thirds of the working former students in both the respondent and non-respondent groups gave permission for their supervisor to be contacted about the vocational training received in high school or area center program.

Small percentages of both respondents and non-respondents were in the military, or were homemakers.

The number of males and females were about the same in both groups (49 percent respondents males, 52 percent non-respondent males), and the ethnic/racial breakdown was also very similar in both groups with about 90 percent former students white and about

Table 2

Response Summary

Question	Response Options A	Response Options B	Respondents (N=38,507) Total Valid Answers	Respondents (N=38,507) Number Answering A	Respondents (N=38,507) Proportion Answering A	Non-Respondents (Sample N=1613) Total Valid Answers	Non-Respondents (Sample N=1613) Number Answering A	Non-Respondents (Sample N=1613) Proportion Answering A	R vs. NR t	R vs. NR w^2	Universe (Est. N=52,980) Number Answering A	Universe (Est. N=52,980) Proportion Answering A
1. Are you now attending a school or college?	Yes	No	37402	16344	43.7	1606	485	30.2	10.69*	0.3	21198	40.0
2. (If yes to question 1) In your major area of study, how much do you use the vocation training you received?	Lot or Some	Hardly any or None	15231	10730	70.5	473	260	55.0	7.23*	0.3	14261**	67.3**
3. (If yes to question 1) Type of school or program you are now attending.	High Sch.		15474	1249	8.1	475	7	1.5	5.26*	0.2	1423**	6.7**
	1 Yr Votech Col		15474	736	4.8	475	18	3.8	0.97	0.0	966**	4.6**
	2 Yr Votech Col		15474	3681	23.8	475	97	20.4	1.70	0.0	4895**	22.3**
	2 Yr Lib Arts Col		15474	2358	15.2	475	139	29.3	8.28*	0.4	3843**	18.1**
	4 Yr Col		15474	4718	30.5	475	153	32.2	-0.80*	0.0	6538**	30.8**
	Bus Tech		15474	1117	7.6	475	30	6.3	0.75	0.0	1490**	7.0**

Table 2 Continued

Question	Response Options A	Response Options B	Respondents (N=38,507) Total Valid Answers	Respondents (N=38,507) Number Answering A	Respondents (N=38,507) Proportion Answering A	Non-Respondents (Sample N=1613) Total Valid Answers	Non-Respondents (Sample N=1613) Number Answering A	Non-Respondents (Sample N=1613) Proportion Answering A	R vs. NR t	R vs. NR w^2	Universe (Est. N=52,980) Number Answering A	Universe (Est. N=52,980) Proportion Answering A
	App Pgm		15474	440	2.8	475	13	2.7	0.14	0.0	607**	2.9**
	Other		15474	1175	7.6	475	18	3.8	3.10*	0.1	1443**	6.8**
4. If you are working for pay, how many hours per week do you work?	35 or More	Less Than 35	23155	15317	66.2	1088	786	72.2	-4.16*	0.1	22369***	68.0**
5. (If working for pay) On your present job how much do you use the vocational training you received?	A Lot or Some	Hardly Any or None	21117	11913	56.4	1084	518	47.8	5.58*	0.1	17728***	53.9***
6. (If working for pay) Overall, how satisfied are you with your present job?	Very or Some What	Not Very or Not All	20885	16902	80.9	1084	857	79.1	1.53	0.0	26458***	80.4
7. (If working for pay) Salary per hour.			17481	Ave. 4.16		903	Ave. 4.39		3.87*	0.1	32917***	$4.23***
9. (If working for pay) Is it OK to ask your supervisor about your training?	Yes	No	14609	9656	66.1	1040	733	70.5	-2.88*	0.1	22185***	67.4

Table 2 Continued

Question	Response Options A	Response Options B	Respondents (N=38,507) Total Valid Answers	Respondents (N=38,507) Number Answering A	Respondents (N=38,507) Proportion Answering A	Non-Respondents (Sample N=1613) Total Valid Answers	Non-Respondents (Sample N=1613) Number Answering A	Non-Respondents (Sample N=1613) Proportion Answering A	R vs. NR t	R vs. NR w^2	Universe (Est. N=52,930) Number Answering A	Universe (Est. N=52,930) Proportion Answering A
10. Are you looking for a job?	Yes	No	36172	13997	38.7	1588	364	22.9	12.67*	0.4	18218	34.4
11. Are you in the military service?	Yes	No	36291	2091	5.8	1587	18	1.1	7.87*	0.2	2323	4.5
12. Are you a homemaker?	Yes	No	35827	2997	8.4	1577	100	6.3	2.85*	0.0	4139	7.8
13. What is your sex?	Male	Female	38261	18621	48.7	1598	832	52.1	-2.66*	0.0	26276	49.6
14. Ethnic Racial Group	Amer Ind		38136	319	0.8	1608	23	1.4	-2.52*	0.0	529	1.0
	Asian		38136	117	8.3	1608	3	0.2	0.86	0.0	145	0.3
	Black		38136	3585	9.4	1608	191	11.9	-3.32*	0.0	5539	10.1
	Hisp.		38136	393	1.0	1608	19	1.2			568	1.2
	White		38136	33722	88.4	1608	1455	90.5	-2.53*	0.0	47146	89.0
School Q1 Completer or Leaver?	Comp.	Leaver	38441	33420	87.0	1606	1351	84.1	3.27*	0.0	45652	86.2
School Q2 Did you receive a high school diploma?	Yes	No	37794	35254	93.3	1612	1485	92.1	1.18	0.0	49252	93.0

Table 2 Continued

Question	Response Options A	Response Options B	Respondents (N=38,507) Total Valid Answers	Respondents (N=38,507) Number Answering A	Respondents (N=38,507) Proportion Answering A	Non-Respondents (Sample N=1613) Total Valid Answers	Non-Respondents (Sample N=1613) Number Answering A	Non-Respondents (Sample N=1613) Proportion Answering A	R vs. NR t	R vs. NR w^2	Universe (Est. N=52,980) Number Answering A	Universe (Est. N=52,980) Proportion Answering A
School Q3 Were you in a co-op program?	Yes	No	37262	10931	29.3	1609	634	39.4	-8.65	0.2	16999	32.1
School Q4 Did you have special needs?	Yes	No	37814	4332	11.5	1549	183	11.8	-0.43	0.0	6121	11.6
Two Digit Office of Education Program Code	01		38507	1942	5.0	1613	72	4.5	1.04	0.0	2588	4.9
	04		38507	6557	17.0	1613	325	20.2	-3.25*	0.0	9473	17.9
	07		38507	2502	6.1	1613	99	6.1	0.57	0.0	3390	6.4
	09		38507	2792	7.3	1613	117	7.3	0.00	0.0	3842	7.3
	14		38507	9462	24.6	1613	326	20.2	4.00*	0.0	12387	23.4
	17		38507	15252	39.6	1613	674	41.8	-1.75	0.0	21300	40.2
School Q9 Was the survey follow-up done by phone or mail?	Phone	Mail	37840	11758	31.1	1546	372	24.1	5.85*	0.1	15448	29.2

*Significant at .05 level.
**Based upon an estimated universe of 21,198 (answered yes to Question 1).
***Based upon an estimated universe of 32,917 (working).

10 percent black. Only a very small percentage of the former students reported they were American Indian, Asian, or Hispanic.

Eighty-seven percent of the respondents and 84 percent of the non-respondents were classified as completers; 93 percent of the respondents and 92 percent of the non-respondents indicated that they had received a high school diploma.

About 29 percent of the respondents and 39 percent of the non-respondents were enrolled in a cooperative education program, and about 11 percent of both groups and special needs, i.e., were classified as handicapped, disadvantaged or of limited English proficiency.

Six of the two-digit Office of Education program codes were represented in about the same proportion in the non-respondent and respondent groups. The code of 17 contained the largest number of former students, about 40 percent in each group.

About 31 percent of the respondents and 24 percent of the non-respondents were in CEPDs which conducted a telephone follow-up of the original survey. The remaining students were in CEPDs which followed-up by mail.

The results displayed in Table 2 indicate clearly that there was a substantial degree of similarity between the group of respondents and the sample of non-respondents. The responses were compared to determine if there were statistically significant differences between responders and non-responders. The analysis technique was a parametric proportions test. All t-values shown as statistically significant are significant at an alpha level of .05.

Specifically, it was found by a review of the comparative statistics that for the responders a significantly higher proportion of responders were attending a school or college (44 percent vs. 30 percent). The proportion of non-responders working 35 or more hours per week was significantly higher than the comparable proportion of responders (72 percent vs. 66 percent), and the average hourly salary of non-responders was significantly higher than the hourly salary of the respondent group ($4.39 vs. $4.16).

It may also be seen that a significantly greater proportion of respondents were looking for a job (39 percent vs. 23 percent). This pattern of results indicates that former students were somewhat more likely to respond to the follow-up survey if they were continuing their education or training, and somewhat less likely to respond to the follow-up survey if they were working or not in school. This finding is consistent with the reasonable expectation that individuals enrolled in an educational activity would be more likely to respond to an educational survey, and that students in school might be easier for the LEA to locate and follow-up.

On survey questions 2 and 5, a significantly higher proportion of respondents than non-respondents indicated that they used their vocational training "a lot" or "some" in both their present studies (70 percent vs. 55 percent on question 2) and on their jobs (56 percent vs. 48 percent on question 5). This finding also is consistent with the notion that former students who felt that they were using their high school vocational training

in their further studies or in their jobs might be more likely to respond to the follow-up survey than those who felt that they were not.

There was a significant difference in the proportion of answers to one other item that appeared to be consistent with results obtained in general survey research. On "school use" question 9, a significantly higher proportion of respondents (31 percent vs. 24 percent) were from LEAs which used a telephone rather than mail follow-up to the original survey. This finding tends to support the somewhat greater efficiency, although at greater cost, of the phone survey method.

There were significant differences between respondents and non-respondents on two questions that we had not related to any a priori expectations. Twenty-nine percent of the non-respondents, but only 15 percent of the respondents, were in a two-year liberal arts college (question 2). Twenty-nine percent of the respondents, compared to 39 percent of the non-respondents, had been enrolled in a cooperative vocational education program (school question 3). In total, significant differences were found for more than half of the obtained t-values. However, the actual differences in proportions between the respondents and non-respondent groups on most questions were fairly small.

In discussion with the project officer it was decided to calculate a w^2 statistic for each significant t-value. This value is an estimate of the "meaningfulness" of the differences between the respondent and non-respondent populations (Hays, 1972). Although a t-value might indicate a statistically significant

non-respondent bias, the total difference between the non-respondents and respondents might be very small. The w^2 statistic is an estimate of the amount of variance in the item explained in their answers to that item, and is based on the t-value and the size of the sample.

Examination of the w^2's obtained reveals that the responders and non-responders were quite similar in their answers. However, as often occurs in sampling studies, there may be very different interpretations of the same data; a 4 percent discrepancy between the estimated and reported proportions of respondents on a survey item may be highly significant to one interpreter, and meaningless to another. The data obtained in this study must be evaluated in connection with the overall goals of the follow-up survey project, and the degree of accuracy considered to be necessary in estimating and reporting the universe parameters.

Estimation of Universe Parameters

An important purpose of the present study was to use data obtained from sampling of non-respondents to improve the estimation of the parameters of the universe of former vocational education students surveyed.

The two right most columns of Table 2 display the estimated number and proportion of responses in the universe to the selected response option(s) for each item.

It may be seen that the estimated universe proportions for each option reported are very close to the proportions obtained from the group of respondents. The greatest difference in

proportions was 4.3 percent for question 10, and most of the other differences between the proportions were much smaller. Both the high original survey return rate of 73 percent and the high degree of similarity between the answers of the respondents and non-respondents contributed to this finding.

In the two right-most columns appears the estimates of the number and proportions of responses from the total universe of the Class of 1980. The values reported for each data item represent the original survey values adjusted with data from the non-response study. Vocational educators should use the values from the "universe" columns in describing the entire group of completers and leavers of fiscal year 1979-80. These estimates were calculated by the following formulae:

1) Estimated Number in Universe Selecting Option $= \left[p(R) \cdot U(R) \right] + \left[p(NR) \cdot U(NR) \right]$

Where

p(R) = proportion of responders selecting option

U(R) = universe of responders

p(NR) = proportion of non-responders selecting option

U(NR) = universe of non-responders

2) Estimated Proportion of Universe Selecting Option $= \frac{EU}{U}$

Where

EU = estimated number in universe selecting option

U = number in universe

It should be noted for questions 1, 5, 14 school questions 1, 2, 3, and 4 and OE code, the total universe was 52,976 (total respondents plus non-respondents). For the other questions, the estimated number was calculated from the responses to other items. For example, the estimated universe for questions 2 and 3 was 21,198 (the estimated total number of former students who answered "yes" to question 2).

CONCLUSIONS

From this study of non-responders to the 1980 Follow-Up Study of Completers and Leavers, we draw three major conclusions.

The first conclusion is that the district educators responsible for the follow-up did, for the most part, successfully follow-up their completers and leavers. This was evident from a high return rate and the very difficult task of obtaining complete information on 1,600 non-responders.

The second conclusion is that the information obtained from the respondents is a highly accurate estimate of the status of the universe of former vocational students surveyed, on most of the survey items.

Third, it is concluded that the data from the sample of non-respondents surveyed in the present study revealed certain areas of non-respondent bias which should be considered in the interpretation and reporting of the survey results if the universe is to be all completers and leavers rather than only those who are willing to complete the follow-up survey.

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APPENDICES

APPENDIX A

Phone Survey

CEPD # _____

Survey Student # _____

Student Name _____

Student Id # _____

LEA # _____

Non-Responder Survey For the Survey of

Former Vocational Students

Hello, I'm _____, from Instructional Development and Evalua-Associates, Inc. We're conducting a survey of vocational education students for the Michigan Department of Education and would like just a few minutes of your time to ask you some questions.

First,

1. Are you now attending a school or college, or enrolled in a training program, or working as an apprentice? (CHECK ONLY ONE)

   _____ Yes → If yes,
   _____ No

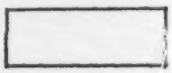
2. In your major area of study (or training), how much do you use the vocational training you received in your high school or area vocational education center? (CHECK ONLY ONE)

   _____ alot
   _____ some
   _____ hardly any
   _____ none

3. Check the type of school or program you are now attending. (CHECK ONLY ONE)

   _____ high school
   _____ 1-year college vocational-technical program
   _____ 2-year college vocational-technical program
   _____ 2-year college liberal arts program
   _____ 4-year college or university
   _____ business or trade school
   _____ apprentice program
   _____ other _____

4. If you are working for pay, about how many HOURS PER WEEK do you work? Write the number of hours per week in the box.



→ If respondent is not working for pay, go to question 9

5. On your present job, how much do you use the vocational training you received in your high school or area vocational education center? (CHECK ONLY ONE.)

_____ A lot
_____ Some
_____ Hardly any
_____ None

6. Overall, how satisfied are you with your present job? (CHECK ONLY ONE)

_____ Very Satisfied
_____ Somewhat Satisfied
_____ Not Very Satisfied
_____ Not at all Satisfied

7. How much are you paid on your present job?

$_____ per hour.

8. The high school job training that you and other former students received usually gets good ratings when we ask supervisors. We may need to ask your supervisor about the training you received in high school. Is that OK with you?

_____ Yes → What is your supervisor's phone number?

(_____) _____ - _____
Area Code

_____ No

Go to Item 12

9. Are you looking for a job? (CHECK ONLY ONE)

_____ Yes
_____ No

10. Are you in the military service? (CHECK ONLY ONE)

_____ Yes
_____ No

11. Are you a homemaker?
(CHECK ONLY ONE)

_____ Yes
_____ No

12. Please identify yourself as a member of one of the groups of people I'm going to list (CHECK ONLY ONE)

_____ American Indian or Alaskan Native
_____ Asian or Pacific Islander
_____ Black, not of Hispanic Origin
_____ Hispanic
_____ White, not of Hispanic Origin

13. Did you complete the vocational program you were in?

_____ Yes
_____ No

14. Did you receive a high school diploma?

_____ Yes
_____ No

15. Were you in a cooperative education program? (co-op)

_____ Yes
_____ No

16. Every year the state of Michigan conducts a survey of former vocational students. The survey was yellow in color and had 4 sides. Your response to the survey was never received. Was there a particular reason for this?

_____ wasn't contacted
_____ forgot
_____ too long
_____ wasn't home
_____ felt it was a waste of time
_____ too confusing
_____ other (why?)
_____
_____
_____

Information for Interviewer to complete:

A. Sex of respondent (if unsure ASK!)

_____ Male
_____ Female

B. Six digit Office of Education code for training

__ __ __ __ __ __

C. Serial number of program in which student was enrolled. _____

D. Home school district code of the respondent if institutional program attended was a school district different from home school?

_____

E. Method of Contact

_____ Phone
_____ On Site

School _____ # _____
Contact _____

Non-Responders

Demographic Information needed for each survey

a. Program serial number

_____ _____ _____ _____ _____ _____

b. Does the student have special needs classifications?

_____ yes
_____ no

c. Was the data from the respondent originally attempted to be collected by

_____ mail
_____ telephone
_____ other

APPENDIX B

Mail Survey

FOLLOW-UP SURVEY OF FORMER STUDENTS

Dear Former Student:

We are writing to you, as a former high school student, to ask your help in improving some of the courses you took in school. By answering a few questions about what you are doing now and giving us your opinions, you can help the Michigan Department of Education make courses better for students.

The courses we are writing you about are those that you took in "vocational education" in order to get ready for a job.

Please take a few minutes to answer the questions in this survey. Your help will be greatly appreciated. When you have completed the survey simply put it in the enclosed envelope and drop it in the mail.

Name _____

1. If you are currently attending school, how much do you use the vocational training you received in your high school or area vocational education center? *(CHECK ONLY ONE)*

   ____ a lot
   ____ some
   ____ hardly any
   ____ none
   ____ not currently attending school

2. Check the type of school or program you are now attending. *(CHECK ONLY ONE)*

   ____ high school
   ____ 1-year college vocational-technical program
   ____ 2-year college vocational-technical program
   ____ 2-year college liberal arts program
   ____ 4-year college or university
   ____ business or trade school
   ____ apprentice program
   ____ other (what?) _____
   ____ not currently attending school

3. If you are working for pay, about how many HOURS PER WEEK do you work?

   ____ HOURS PER WEEK
   ____ not working for pay

4. On your present job, how much do you use the vocational training you received in your high school or area vocational education center? *(CHECK ONLY ONE)*

   ____ a lot
   ____ some
   ____ hardly any
   ____ none
   ____ not currently working

5. Overall, how satisfied are you with your present job? *(CHECK ONLY ONE)*

   ____ very satisfied
   ____ somewhat satisfied
   ____ not very satisfied
   ____ not at all satisfied
   ____ not currently working

6. How much are you paid on your present job?

   ____ per hour
   ____ not currently working

7. The high school job training that you and other former students received usually gets good ratings when we ask supervisors. We may need to ask your supervisor about the training you received in high school. Is that OK with you?

   ____ yes What is your supervisor's name and phone number?

   Name: _____

   Phone: (____) _____
   Area Code

   ____ no
   ____ not currently working

8. Are you looking for a job? *(CHECK ONLY ONE)*

   ____ yes
   ____ no
   ____ already have a job

9. Are you in the military service?

   ____ yes
   ____ no

10. Are you a homemaker?

    ____ yes
    ____ no

11. Please identify yourself as a member of one of the following groups of people. *(CHECK ONLY ONE)*

    ____ American Indian or Alaskan Native
    ____ Asian or Pacific Islander
    ____ Black, not of Hispanic Origin
    ____ Hispanic
    ____ White, not of Hispanic Origin

12. Did you complete the vocational program you were in?

    ____ yes
    ____ no

13. Did you receive a high school diploma?

    ____ yes
    ____ no

14. Were you in a cooperative education program? (co-op)

    ____ yes
    ____ no

15. Every year the State of Michigan conducts a survey of former vocational students. The survey was yellow in color and had 4 sides. Your response to the survey was never received. Was there a particular reason for this?

____ I did not receive it
____ I forgot to return it
____ It was too long
____ I was not home to complete it
____ I felt it was a waste of time
____ It was too confusing
____ other (why?)_____

_____

16. Please indicate your sex.

____ male
____ female

17. Are there any comments you have related to the vocational education you received?

APPENDIX C

Summary Report

Summary Report

Status of Michigan Secondary Vocational Education Students Of the Class of 1980 One Year After Completing Skill Training Programs

November, 1981

Submitted by:

Instructional Development and Evaluation Assoc., Inc.

Status of Michigan Secondary Vocational Education Students
Of the Class of 1980 One Year
After Completing Skill Training Programs

Introduction

For at least the past seven years, the Michigan Department of Education, in cooperation with local secondary educational agencies operating reimbursed vocational education programs, has conducted annual follow-up surveys of certain former students.

The students surveyed each year are all of those who enrolled in one of the programs the previous school year and who completed the programs or left school without completing them. The main purpose of the surveys is to obtain information about the former students' employment, continuing education, opinions of high school training and jobs, the degree of relationship between training and jobs, and/or continuing education.

The Department uses the information to meet mandatory reporting requirements and for planning. Many local educational agencies use the results in planning and for evaluation for their programs.

The findings have been useful. However, they have been limited in that they can describe only the group of former students who respond to the survey questions. On the average, 76 percent of the students surveyed respond, leaving unknown critical information about nearly one-fourth of them. While survey specialists consider a 76 percent return to a survey of a large universe quite high, it does not constitute a randomly selected sample and cannot be defended as an unbiased sample of the entire group of former students surveyed.

The Department in 1981, in an effort to deal with the non-response bias question, funded a study by Instructional Development and Evaluation Associates, Inc. (IDEA). After the usual annual survey was complete, IDEA conducted research to obtain dependable information about the non-respondents to the survey. Purposes of the study were:

1. To obtain answers from a scientifically-correct sample of non-respondents to the same questions answered by respondents;

2. To compare answers from non-respondents and respondents to determine differences and similarities between them; and

3. By properly combining information from both the survey and study, to obtain estimated follow-up results which would apply to the entire group ("universe") of completers and leavers of the Class of 1980 in Michigan.

Some Findings

Respondents and non-respondents answered many of the items from the original survey questionnaire about the same but gave significantly different responses to some others. That means information based on original survey responses similar to those obtained in the non-response study remain almost unchanged when applied to the entire universe of students followed-up. However, where responses from the survey and study differ, information from the non-response study are essential to making estimates of the universe.

The value of the study lies in knowing which items were answered similarly and which differently so that estimates of answers to all questions by all completers and leavers can be made possible.

Using information obtained from the non-responders to the original survey, combined with information from the respondents, IDEA made systematic estimates which describe the entire group of completers and leavers. Those estimates, for completers only*, appear in the tables that follow. The tables are "regenerations" of tables of information based upon the original survey which the Department issued as official follow-up reports.

Table 1 provides estimates of the numbers and percentages of responses to each item on the follow-up questionnaire.

Table 2 is an adjusted "X-0607 Report" which presents, by OE-code area, estimates of completers employed full or part-time, continuing their education, and those unemployed and seeking work but who are not in school.

Table 3 is an adjusted "X-0608 Report" with estimates of continuing education status, job satisfaction, and wages.

Instructions issued by the Department for interpreting the original survey reports follow the tables.

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*IDEA has omitted information obtained from leavers in this summary in order to parallel findings published by the Department which deal only with completers. For complete results of the non-response study, including information obtained from leavers, the sampling design, the description of the sample and the formulae used for making the estimates, see the "Technical Report, Study of Non-Responders to the Follow-Up Survey of 1980 Completers and Leavers," November 1981.

Table 1

Results of the Follow-Up Survey of 1980 Former Vocational Education Completers: Universe Estimates of Responses to Selected Survey Questions

Question	Response Option	Estimated Universe of Completers: Number	Percent
Are you now attending a school or college, or enrolled in a training program, or working as an apprentice?	Yes	19089	39.96
	No	28679	60.04
(If YES to Question 1) In your major area of study, how much do you use the vocational training you received in high school?	A Lot	7077	37.07
	Some	5927	31.05
	Hardly Any	2546	13.34
	None	3540	18.54
Check the type of school or program you are now attending.	High school	1035	05.42
	1-yr College V-T	865	04.53
	2-yr College V-T	4486	23.50
	2-yr College L-A	3509	18.38
	4-yr College	5897	30.89
	Bus/Trade School	1327	06.95
	Appren. Program	556	02.91
	Other	1415	07.41
If you are working for pay, about how many hours per week do you work?	35 or more	20833	68.34
	24 - 34	4602	15.09
	12 - 23	4117	13.51
	1 - 11	933	03.06
On your present job, how much do you use the vocational training you received in high school?	A Lot	9349	30.67
	Some	7285	23.90
	Hardly Any	4367	14.33
	None	9483	31.11
Overall, how satisfied are you with your present job?	Very Satisfied	12161	39.89
	Somewhat	12495	40.97
	Not Very	4066	13.34
	Not At All	1763	05.78
How much are you paid on your present job? (per hour)	$ .01 to $3.34	1989	06.52
	$3.35 to $3.84	13238	43.42
	$3.85 to $4.34	5922	19.43
	$4.35 to $4.84	2746	09.01
	$4.85 to $5.34	2631	08.63
	$5.35 to $5.85	957	03.14
	$5.85 or more	3002	09.85

Table 1 Continued

Question	Response Option	Estimated Universe of Completers Number	Percent
We may need to ask your former supervisor about the training you received in high school. Is that OK with you?	Yes	20739	68.03
	No	9746	31.97
Are you looking for a job?	Yes	15809	33.10
	No	31959	66.90
Are you in the military service?	Yes	2004	04.20
	No	45764	95.80
Are you a homemaker?	Yes	3552	07.44
	No	44216	92.56
What is your sex?	Male	23721	49.66
	Female	24047	50.34
Please identify yourself as a member of one of the groups of people listed below.	American Indian	473	00.99
	Asian	115	00.24
	Black	4092	08.57
	Hispanic	493	01.03
	White	42592	89.16
Did you receive a high school diploma?	Yes	45738	95.75
	No	2030	04.25
Were you in a cooperative education program?	Yes	16126	33.76
	No	31642	66.24
Did you have special needs as a student: handicapped, limited English speaking, or disadvantaged?	Yes	5131	10.74
	No	42637	89.26

Table 2

Placement Summary of Completers by Program Area

Program Name OE Code		Survey Returned	Available For Work	Employed						Continuing Education		Unemployed Seeking Work, Not in School	Related Placement	
				Full-Time				Part-Time						
				Total	Related	Unrelated	Other	Related	Unrelated	Total	Related		Program	Total
01. Agriculture														
	Number	3322	2921	1881	1093	706	82	144	257	816	424	473	1537	1537
	Percent	100	87.9	82.4	58.1	37.5	4.4	35.9	64.1	24.6	52.0	14.2	46.3	46.3
04. Distribution														
	Number	8517	7160	3283	1804	1254	225	1187	929	3777	2091	905	4353	4353
	Percent	100	84.1	60.8	54.9	38.2	6.9	56.1	43.9	44.3	55.4	10.6	51.1	51.1
07. Health														
	Number	3021	2381	935	568	315	52	392	328	1544	1007	328	1676	1676
	Percent	100	78.8	56.5	60.7	33.7	5.6	54.4	45.6	51.1	65.2	10.9	55.5	55.5
09. Occupational Home Economics														
	Number	3179	2725	1076	467	523	86	371	396	970	539	628	1218	1218
	Percent	100	85.7	58.4	43.4	48.6	8.0	48.4	51.6	30.5	55.6	19.8	38.3	38.3
14. Office														
	Number	11220	9296	4288	2879	1237	172	1358	1283	5234	3601	1059	6628	6628
	Percent	100	82.9	61.9	67.1	28.9	4.0	51.4	48.6	46.6	68.8	9.4	59.1	59.1
17. Trade and Industrial														
	Number	18509	15771	9370	4381	4002	987	984	1846	6315	3590	2250	7783	7783
	Percent	100	85.2	76.8	46.8	42.7	10.5	34.8	65.2	34.1	56.8	12.2	42.0	42.0
TOTAL														
	Number	47768	40254	20833	11192	8037	1604	4436	5039	18656	11252	5643	23195	23195
	Percent	100	84.3	68.7	53.7	38.6	7.7	46.8	53.2	39.1	60.3	11.8	48.6	48.6

Table 3

Vocational Education Continuing Education, Job Satisfaction, and Hourly Wage Summary

Program Number and Name		Surveys Returned	Continuing Education Total	Continuing Related Education						Job Satisfaction		Wages	
				Total Related	1-2 Yr College	2-4 Yr College	Trade School	Apprenticeship Program	Other	Related	Unrelated	Related	Unrelated
01. Agriculture													
	Number	3322	816	424	142	205	13	13	51	1074	617	4.06	4.73
	Percent	100	24.6	52.0	33.5	48.3	0.03	0.03	12.0	47.1	27.0	1002	833
04. Distribution													
	Number	8517	3777	2091	506	1338	131	30	86	2554	1548	3.97	4.26
	Percent	100	44.3	55.4	24.2	64.0	6.3	1.4	4.2	47.3	28.7	2567	1855
07. Health													
	Number	3021	1544	1007	360	560	11	5	71	897	409	3.87	3.61
	Percent	100	51.1	65.2	35.7	55.6	1.1	0.5	7.1	54.2	24.7	842	567
09. Occupational Home Economics													
	Number	3179	970	539	144	303	24	7	61	727	687	3.57	3.61
	Percent	100	30.5	55.6	26.7	56.2	4.5	1.3	11.3	39.4	37.3	718	793
14. Office													
	Number	11220	5234	3601	1089	1910	427	12	163	3923	1670	4.13	3.87
	Percent	100	46.6	68.8	30.2	53.0	11.9	0.3	4.5	56.6	24.1	3529	2229
17. Trade and Industrial													
	Number	18509	6315	3590	1494	1140	321	347	289	4851	3990	4.92	4.43
	Percent	100	34.1	56.8	41.6	31.8	8.9	9.7	8.1	39.8	32.7	4056	4614
Total													
	Number	47768	18656	11252	3735	5456	927	414	721	14026	8921	4.37	4.26
	Percent	100	39.1	60.3	33.2	48.5	8.2	3.7	6.4	46.3	29.4	12714	10891

STATE OF MICHIGAN

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VOCATIONAL-TECHNICAL EDUCATION SERVICE
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- 1981 -

Follow-Up Survey of 1980 Completers
Interpretation Information For Placement By Program (X0607)

The Placement Summary of Completers reports placement information received from students who completed vocational programs in 1980 and who are no longer in high school.

The following should be considered when interpreting the data:

(1) The population used in this report includes all completers who are no longer in school (all 1979-80 completers who were still in school were removed from the data.)

(2) The definition of full-time employment vs. part-time employment is based upon 35 or more hours per week.

(3) The X0607 report contains some replicated data from the X0608. Total and related continuing education are found on both reports.

(4) Previous X0607 data items "Job Satisfaction" and "Hourly Wages" are now found on the X0608 report.

(5) Two new data items "Program Related Placement" and "State Total Related Placement" have been added to the X0607. They represent an indicator of the program's placement rate by including full and part-time related employment and also related continuing education.

(6) For the first time the # surveyed is included in this report. This number represents the total number of completers reported by the agency on form VE-4301 end-of-year reporting period. Because this number sometimes varies from the population actually surveyed (due to local agency adjustments in counts), an excessive return rate in Column 3 may occur.

A complete description of each column on the report is given below:

Column 1

Column 1 contains the Program Name and Number. In addition, the reports at the district level will also show information by Program Serial Number (PSN). If the program was offered by a fiscal agency in more than one location, each location will be listed separately and then aggregate totals for the fiscal agent's entire program are shown.

Column 2

Column 2 shows the number of completers reported to the Michigan Department of Education on form VE-4301 in June 1980. The number should be the population of completers to be surveyed by the district. On the local district summary only, if the district submitted a different survey population on the 1981 VE-4045-B "Follow-Up Transmittal Sheet" then the number surveyed has been underlined with asterisks to indicate the discrepancy. Such discrepancies may also explain an excessive response rate found in Column (3).

Column 3
Column 3 shows the number of surveys returned for each program. Overall district and CEPD rates were calculated this year based on information returned on form VE-4301. Return rates are calculated in the district level summaries by Program Serial Number based upon the number surveyed in Column 2.

Column 4
Column 4 is a total of those respondents who said that they were employed or said they were looking for a job. The percentage is determined by dividing that number by the surveys returned number in Column 3.

Columns 5 through 10
Information in Columns 5 through 10 describes completers who were employed.

Column 5
Column 5 shows the number of respondents who were employed 35 or more hours per week. The percentage was calculated by dividing the total number of respondents employed 35 + hours per week by the total number of respondents employed (Columns 5 + 9 + 10).

Column 6
Column 6 shows the number of respondents who said that they were employed in an occupation related to their training (answered "A Lot" or "Some" to Question 2 on the questionnaire). Column 6 divided by Column 5 shows the percentage of respondents who said they were working full-time in a related occupation.

Column 7
Column 7 shows the respondents who said they were employed full-time in an occupation not related to their vocational education. The percentage shown was obtained by dividing the number of respondents employed full-time in an unrelated occupation by the total respondents employed full-time.

Column 8
This column contains all respondents who reported they were working full-time but who did not respond to the relatedness question.

Columns 9 and 10
Columns 9 and 10 show only those respondents who reported they were working less than 35 hours per week. Column 9 shows the number of respondents who said they were working part-time in an occupation related to their vocational training. Column 10 shows the number of respondents who said they were working part-time in an occupation not related to their vocational education. In both columns the percentages are calculated by dividing the number in the column by the sum of Columns 9 and 10 (all part-time).

Columns 11 and 12
Columns 11 and 12 contain data on respondents in continuing education. (identical to Columns 3 and 4 on the X0608). Column 11 is a count of the total number of continuing education completers. Column 12 represents those in continuing education related to their training. These counts can be a duplicate of either Column 6 or 9 due to the possibility of a student being both employed related and continuing education related.

Column 13
Column 13 is a total of those respondents who said they were (1) unemployed and (2) looking for a job who did not say they were students. The percentage is calculated by taking the figure shown in Column 13 and dividing by all who returned surveys (Column 3).

Columns 14 and 15

Columns 14 and 15 are new this year and contain a factor called a related placement rate. In Column 14 the factor is calculated by summing the number of students who appear in either Columns 6, 9, or 12 (unduplicated) and dividing that figure by all who returned surveys (Column 3). Column 15 followed the same calculation and results in the same related placement rate at the state level for that O.E. code.

At the completion of the report is an aggregate total of all information presented in the report. Three cautions need to be exercised when using these totals:

(1) The number appearing in Column 2 "# Surveyed" is all completers to be surveyed. Column 3 "Survey Returned" is a count of all completers not in high school who returned surveys. Thus, if your CEPD or district had completers who were still in school to be surveyed they are in the Column 2 number, but they have been removed from Column 3. Therefore, your percent of return will be low.

(2) Some shared time programs may have invalid response rates of over 100 percent if a program was reported as operating at one fiscal agency on the Transmittal Sheet, but was changed in the editing process to the correct fiscal agent. The opportunity to sort students by their fiscal agency and home district was possible in the X0607 if a student's follow-up survey contained the correct home district identification code. Many forms had incorrect entries.

(3) Totals for the number surveyed (Column 2) will have two figures entered if the district submitted a "Follow-Up Transmittal Sheet" that differed from the VE-4301 submitted completer data. If two numbers appear in this total, the top number is the completer count from the VE-4301. The second number is the discrepancy submitted on the transmittal sheet.

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-1981-
Follow-Up Survey of 1980 Completers
Continuing Education, Job Satisfaction,
and Hourly Wage Rate Summary (X0608)

The Vocational Education Continuing Education, Job Satisfaction, and Hourly Wage Rate Summary provides information related to each of those three areas. The following information is provided to assist readers in interpreting the report. The report is divided into six general catagories: (1) Program number and name (2) total completers returning the surveys (3) total completers in continuing education (4) continuing education related breakdown (5) job satisfaction, and (6) hourly wages.

A complete description of each column on the report is given below:

Column 1
Column 1 contains the program name and number.

Column 2
Column 2 shows the number of surveys returned for each program.

Column 3
Column 3 is the total number of continuing education students who responded to question number 1 on the follow-up that they were attending a school or college, or enrolled in a training program, or in an apprenticeship situation. The percentage shown in Column 3 is a percentage of the population from Column 2.

Columns 4 through 9
Columns 4 through 9 are descriptions of the total number of students found in continuing education. Column 4, "Total Related Continuing Education" contains those students from Column 3 who responded "A Lot" or "Some" to question number 2 on the follow-up survey. The numbers and percentages in Columns 5 through 9 are calculated based upon the total related continuing education found in Column 4.

Column 10
Column 10 shows the number of students who responded that were either "Very Satisfied" or "Somewhat Satisfied" with their present job.

Column 11
Column 11 shows the number of students who responded that were either "Very Satisfied" or "Somewhat Satisfied" with their present job and who identified their job as unrelated.

Column 12

Column 12 is the average (hourly rate) reported by the respondents who said they were employed full-time in a related occupation. The average wage was calculated by summing the wages of the respondents working full-time in related occupations and dividing by the number of full-time related respondents who reported wages. The number of respondents who reported wages is shown beneath the mean hourly wage.

Column 13

Column 13 is the average (mean hourly wage) rate reported of respondents who were full-time unrelated. The average wage was calculated by summing the wages of respondents working full-time in unrelated occupations and dividing by the number of full-time unrelated respondents who reported wages. The number of respondents who reported wages is shown beneath the mean hourly wage.